



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,553	06/24/2003	Tohru Kohda	03599.000064.	7757

5514 7590 02/18/2005

FITZPATRICK CELLA HARPER & SCINTO  
30 ROCKEFELLER PLAZA  
NEW YORK, NY 10112

EXAMINER
----------

KIM, PETER B

ART UNIT	PAPER NUMBER
----------	--------------

2851

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/601,553

Applicant(s)

KOHDA ET AL.

Examiner

Peter B. Kim

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-8,10-14 and 16-22 is/are rejected.
- 7) ☒ Claim(s) 3,9 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

Applicant's arguments filed on Dec. 23, 2004 have been fully considered.

#### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 7, 8, 10-12, and 19-22 are rejected under 35 U.S.C. 102(a) as being anticipated by Nishi (6,522,386).

Nishi discloses a scanning exposure apparatus and method comprising an illumination optical system (1, 7) for illuminating a pattern on a mask (R) using arc-shaped light (col. 26, lines 3-11); a projection optical system (PL); a mask stage (8, 10), a plate stage (TB), the scanning exposure apparatus scanning the mask stage and plate stage synchronously relative to the projection optical system, a mask support for supporting periphery of the mask (Fig. 1), a plate stage tilt mechanism (ZAC, col. 9, line 49-57) for arranging a surface of the plate, wherein the mask deforms due to its own weight from the peripheral support. Nishi also discloses measuring a focus position, identifying an image plane position and calculating tilt angle for tilting the plate and correcting a tilt of the plate and exposing the actual mask (col. 9, lines 58-67). Nishi discloses the mask supported at two sides perpendicular to a scan direction (Fig. 1), where the plate is tilted at the stage stool (col. 9, lines 49-57), correcting projection magnification in a direction orthogonal to a scan direction and a stage control mechanism for scanning at a speed ratio corresponding to a projection magnification (col. 1, lines 38-50).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-6, 13, 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishi in view of Ota et al. (Ota).

Nishi discloses a scanning exposure apparatus and method comprising an illumination optical system (1, 7) for illuminating a pattern on a mask (R) using arc-shaped light (col. 26, lines 3-11); a projection optical system (PL); a mask stage (8, 10), a plate stage (TB), the scanning exposure apparatus scanning the mask stage and plate stage synchronously relative to the projection optical system, a mask support for supporting periphery of the mask (Fig. 1), a plate stage tilt mechanism (ZAC, col. 9, line 49-57) for arranging a surface of the plate, wherein the mask deforms due to its own weight from the peripheral support. Nishi also discloses measuring a focus position, identifying an image plane position and calculating tilt angle for tilting the plate and correcting a tilt of the plate and exposing the actual mask (col. 9, lines 58-67). Nishi discloses the mask supported at two sides perpendicular to a scan direction (Fig. 1), where the plate is tilted at the stage stool (col. 9, lines 49-57), correcting projection magnification in a direction orthogonal to a scan direction and a stage control mechanism for scanning at a speed ratio corresponding to a projection magnification (col. 1, lines 38-50).

However, Nishi does not disclose tilting of the mask stage. Ota discloses in col. 11, lines 33-44, tilting of the mask stage. Therefore, it would have been obvious to one of ordinary skill

Art Unit: 2851

in the art at the time of the invention to provide tilting of the mask as taught by Ota to the invention of Nishi in order to provide correction for deviation in the focus error as taught by Nishi in col. 9, lines 58-67.

### ***Allowable Subject Matter***

Claims 3, 9, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art of record teaches the mask support mechanism supporting the mask only at two sides parallel to a scan direction in combination with the limitations of claims 1, 7 or 13.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 2, 4-8, 10-14, and 16-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter B. Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on 8:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Peter B. Kim', is positioned above the printed name.

Peter B. Kim  
Primary Examiner  
Art Unit 2851

February 14, 2005